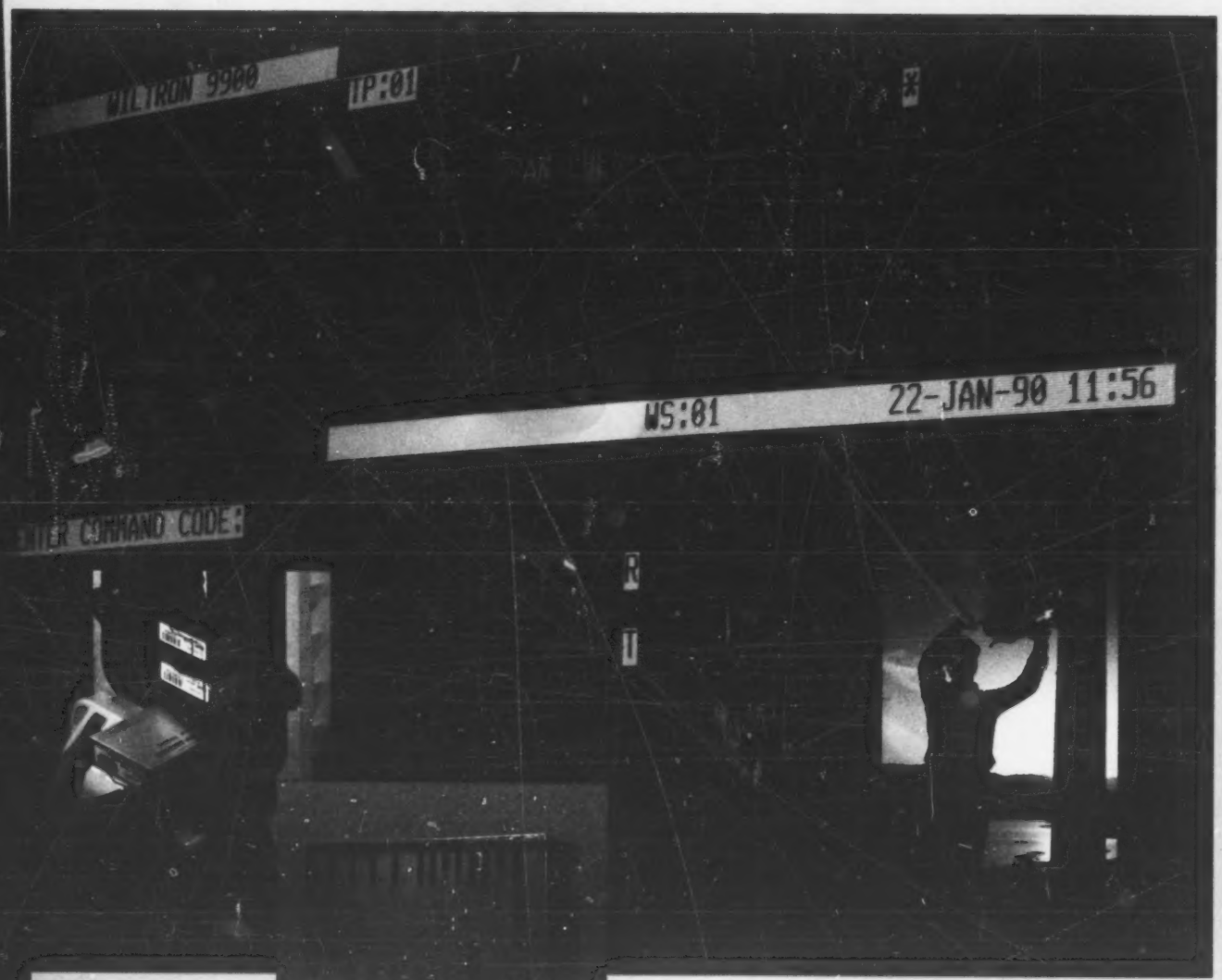
Telephony

AN INTERTEC PUBLICATION FEB. 19, 1990 INTEGRATING VOICE & DATA COMMUNICATIONS $3

Complete SUPERCOMM Planning guide Inside



SUPPORT SYSTEMS PLAY CATCH-UP New

Repeater fault location technology will help telcos keep up with T-1

TELCO RATES FALL AGAIN IN 1989

Rates have dropped by $2.72 billion in three years

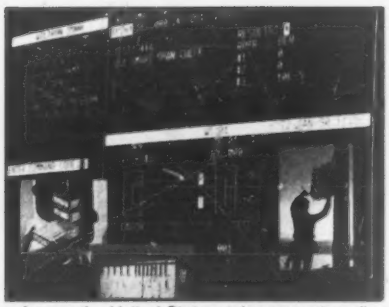
BELLCORE ACHIEVES ISDN LINK

Multivendor voice-data call is made using SS7

MONDAY, FEBRUARY 19, 1990 Volume 218, No. 8

Telephony

INTEGRATING VOICE & DATA COMMUNICATIONS



Across the United States, telcos are struggling to keep up with the demand for high-capacity services. New repeater fault location technology is helping telcos and their support systems play catch-up. Cover photos by John Benson, design by Harry Smallwood. Cover courtesy of Wiltron Co.

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In My Opinion

Hacking: Infantile or Infamous?

When I first heard of the Legion of Doom—the group of computer hackers whose mission is to electronically invade central office switches, reroute calls, steal computer data and share the wealth with fellow hackers—my initial reaction was, "How infantile!" Then I calculated that Robert Riggs and Craig Neidorf, two of the four hackers indicted, could spent 63 years in jail if found guilty. Their combined fines may reach $344,000. Clearly, what may have started as a juvenile prank has become deadly serious.

Riggs and Neidorf were indicted for stealing and electronically distributing BellSouth Corp.'s proprietary computerized text file program that controls and maintains the company's emergency 911 system. It handles emergency calls to the police, fire, ambulance and emergency services in nine states.

The threat of disruption, however, went beyond BellSouth's region and could have caused chaos nationwide. To make the program available to anyone with access to a computer bulletin board is either criminally irresponsible or is intentionally fostering anarchy.

Despite the ominous title Legion of Doom and code names like The Prophet and Knight Lightning, which sound like Steven Spielberg film rejects, I believe these hackers are simply irresponsible. Still, I would not let them off the hook easily. Their "illegal activities," according to the U.S. Department of Justice, included the rerouting of calls, stealing computer data and modifying credit histories, fraudulently obtaining money and property from companies by altering information in their computers, and disseminating information about attacking computers to other hackers to direct investigation toward other hackers and away from themselves.

Those of us who are not card-carrying members of the Legion of Doom are baffled over the cadre's motivation. There is more than one impetus for crime. During the French Revolution the phrase "criminals of want" was coined to distinguish those who stole to survive. Then there are those who steal to turn a profit. There is a rich history of seizing property to accumulate wealth. The motivation is clear.

As a child I went on a dart-stealing spree while my mother was shopping, just to see how good I was. I did it until I was caught, inspired by the suave Robert Wagner on the television series "To Catch A Thief." My motivation was the challenge.

I think these hackers also are motivated by the challenge. Like it or not, these are America's youth, members of a generation that might live in Miami, but not know where Miami is on a map. Whether they are gang members or legionnaires of doom, these youth need a challenge.

There must be solutions that go beyond imprisonment. I've always felt, for instance, that the solution to graffiti is to provide certain walls to serve as a stone canvas for would-be graffiti artists. Right now, Los Angeles corporations are allowing graffiti artists to paint on the sides of their office buildings. There may be a lesson here for the Bell regional holding companies.

The public network, as it becomes more computerized, is especially vulnerable to hackers. The hacker does more damage—and achieves greater glory—by bringing the likes of BellSouth to their knees. In addition to promoting stringent laws against hacking, telcos might offer some type of contest for hackers. Instead of breaking into a CO or database, hackers could pit their competitive energy against a model decoy system—distinct from the real system—that is just as difficult to invade. It still would be a challenge, but a legal one that wouldn't threaten lives.

Michael S. Warr

Telephony

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INTERTEC

Telco rates drop again in 1989; three-year total hits $2.72 billion

Dawn Bushaus, Assistant Editor

State regulators ordered major telephone companies to cut rates by nearly $839 million in 1989, marking the continuation of a three-year downward trend in rates, according to the Federal Communications Commission. The nation's telcos cut their rates by about $2.72 billion between 1987 and 1989, the FCC annual summary of state rate case activity indicates.

The FCC summary, released quarterly, reviewed 45 rate cases reported to the agency in 1989 by the seven Bell regional holding companies and three major Independents, Contel Corp., GTE Corp. and United Telecommunications Inc. In 32 of the cases, commissions ordered decreases totaling $863.4 million. In 13 cases, they ordered increases totaling about $24.9 million.

The three years of rate cuts follow three years of substantial rate hikes. Between the AT&T divestiture in 1984 and 1986, state regulators approved rate increases totaling $5.3 billion.

The trend in rate cuts is linked to the move toward alternative regulation currently taking shape in many states, said Audrey Stevoff, a vice president at Duff & Phelps Inc.

"Once these plans are put in place, I don't know that we'll see rate cuts, maybe just periodic refunds," she said.

In the past two years, 20 states have adopted alternative regulation. Currently, only five states are not considering new regulatory proposals, Stevoff said.

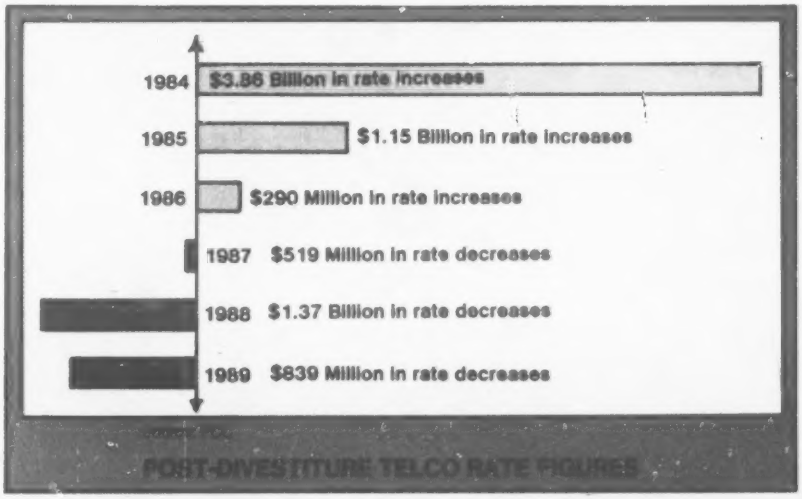
Kansas and Washington are the most recent states to adopt an alternative regulation scheme. The Kansas Corporation Commission recently approved Southwestern Bell's TeleKansas plan, and the Washington Utilities and Transportation Commission adopted U S West's incentive regulation plan along with a $65-million rate cut. In addition, Texas is considering incentive regulation (see story, page 15).

The agreements that telcos and regulatory commissions make in adopting alternative regulation plans often include a rate cut as a gesture of good will. "I guess you could call it an olive branch," Stevoff said.

Two of the largest cuts ordered in 1989 came as part of an incentive regulation plan. In December, the California Public Utilities Commission adopted an incentive regulation plan for Pacific Bell, but also ordered the telco to cut rates by $391 million. And in November, the Illinois Commerce Commission approved alternative regulation along with a $45.4-million rate cut for Illinois Bell.

The rate cuts probably will continue, Ringling said. But the telcos are likely to hold off on aggressive cost reductions in 1990 until the FCC has implemented a price-cap plan, he added.

Other large cuts in 1989 included a Texas Public Utility Commission order against GTE for $59.1 million, which the telco currently is appealing. In Colorado, a depreciation-based rate case last year produced cuts of $46.3 million for U S West Communications, then called Mountain Bell.


1984 $3.86 Billion in rate increases
1985 $1.15 Billion in rate increases
1986 $290 Million in rate increases
1987 $519 Million in rate decreases
1988 $1.37 Billion in rate decreases
1989 $839 Million in rate decreases
POST-DIVESTITURE TELCO RATE FIGURES

Other factors contributing to the ongoing trend of rate decreases include network modernization and a stronger overall economy, Stevoff said. "In the early 1980s, there was rampant inflation and the telcos were in the process of modernizing their plant. The companies went in and sought hefty rate increases. At that time, we had to downgrade many of the commissions' ratings because they were not responding quickly enough," Stevoff said.

Another industry analyst agreed that the continuing changes in the regulatory environment and network modernization are shaping financial trends for telcos.

"Through digitization of the network and reductions in the work force, the telephone companies are now exceeding the rate of return. The regulatory commissions are quite justified in asking for cuts," said Fritz Ringling, a principal with Robert A. Sayles Associates.

Another factor that has driven telco costs down is the leveling off of the rate of plant depreciation, which increased in 1983 and 1984, Ringling said.

In addition, investigations of overearnings resulted in $35.4 million in reductions by South Central Bell in Louisiana and $33.4 million in rate cuts by U S West in Arizona. T

Bellcore claims multivendor ISDN link

Michael Warr
Technical Editor

Bellcore engineers have spanned a crucial gap in integrated services digital network technology, completing an ISDN voice and data call between the central office switches of the two major switch companies over signaling system 7.

Bellcore linked an AT&T Network Systems' 5ESS and a Northern Telecom DMS-100 via a DSC Communications Corp. signal transfer point.

Before this breakthrough the protocols needed for establishing an ISDN call over SS7 were unavailable and the two